

WESPA

Radionuclide Identification

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Functions

- Peak search, energy line identification
- List of potential radionuclides
- Modelling and fit the spectrum

Upload or select a spectrum

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Web-based Gamma Spectrum Analyser - WESPA

Step 1 - Upload spectrum · Step 2 - Select Gamma Library · Step 3 - Measurement setup · Step 4 - Peak analysis · About WESPA · [Modify Report](#) · [Export Data](#) · [Print spectrum](#)

Select a sample spectrum for analysis:

- ☒ cambio2.spe
- ☐ sample-1_Co60_NaI3x3.spe
- ☐ sample-2_Cs137_NaI3x3.spe
- ☐ sample-3_It31_Ce137_NaI3x3.spe
- ☐ sample-4_Ba133_HPGe.spe
- ☐ sample-5_Eu152_HPGe.spe

Next step:

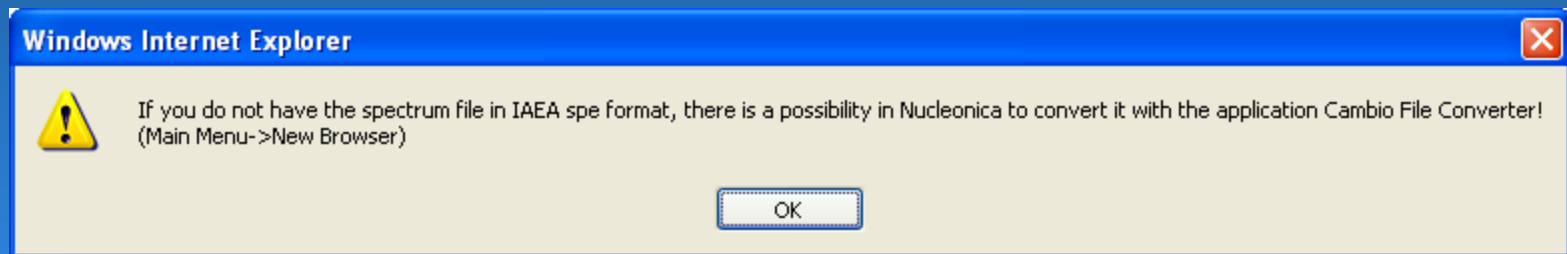
OR

Upload an input spectrum:

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Internet 100%

About the file format



Select or upload a Gamma Library

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[Step 1 - Upload spectrum](#) | **[Step 2 - Select Gamma Library](#)** | [Step 3 - Measurement setup](#) | [Step 4 - Peak analysis](#) | [About WESPA](#) | [Library Project](#) | [Spectral Data](#) | [Input overview](#)

chart by [amCharts.com](#)

Spectrum



Counts per keV

Gamma-ray energy, keV

Select a Gamma Library for analysis:

☐ medical.lib
☐ natural.lib
☒ standard.lib

☒ Logarithmic scale

Next step:

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Done | Internet | 100%

Select the right detector type

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Web-based Gamma Spectrum Analyser - WESPA

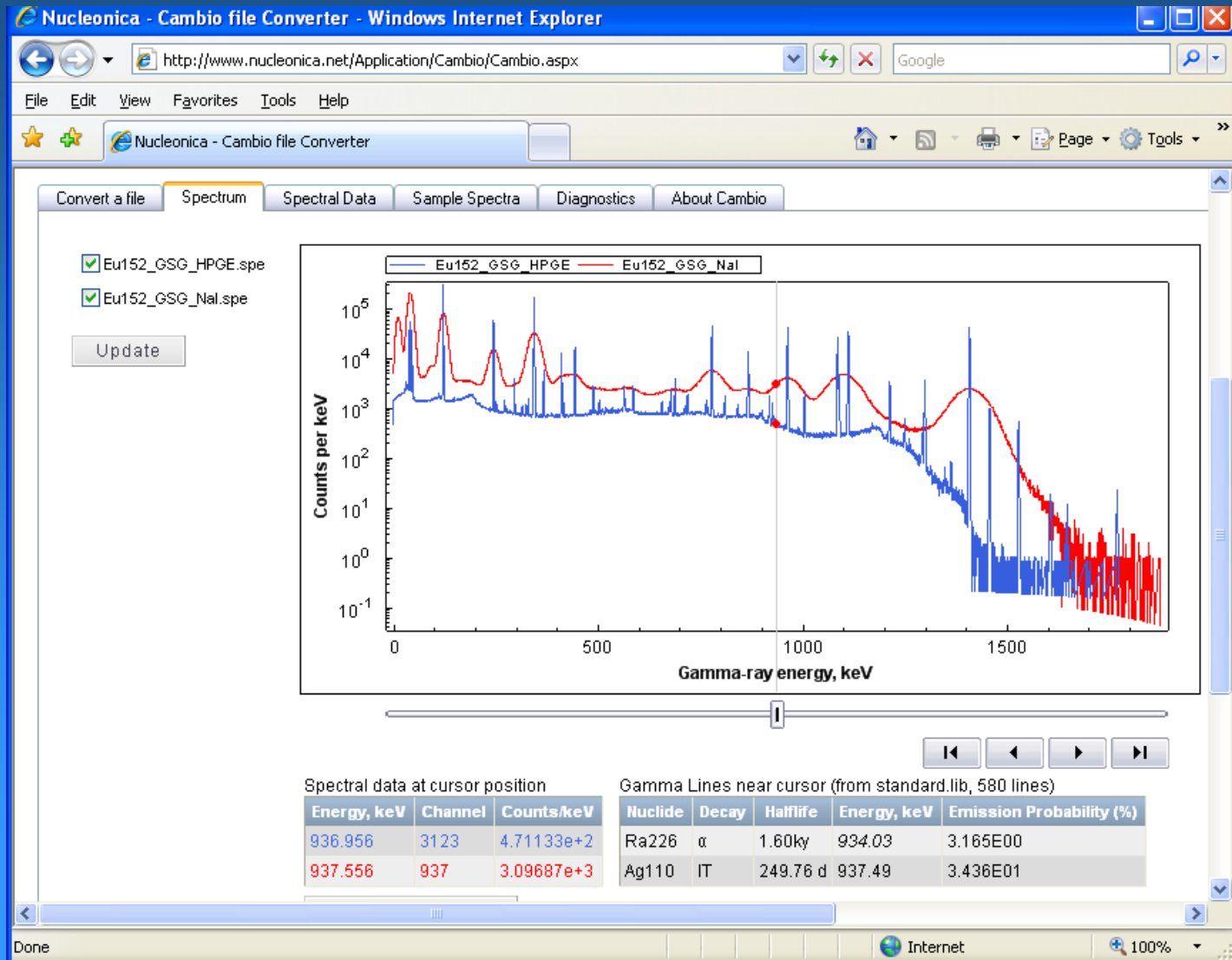
Step 1: Upload spectrum Step 2: Select Gamma Library **Step 3: Measurement setup** Step 4: Peak analysis [About WESPA](#) [License Request](#) [Spectral Data](#) [Input summary](#)

Select the right detector type:

The diagram illustrates the geometry of a gamma-ray measurement setup. A source (red circle) is positioned at a distance of 25.0 cm from a detector. The detector consists of a crystal (blue rectangle) with a length of 7.62 cm and a diameter of 7.62 cm. A filter (purple rectangle) is placed between the source and the crystal. The source is labeled 'Source' and 'Matrix'. The crystal is labeled 'Crystal'. The filter is labeled 'Filter'. The dimensions are labeled 'Dimensions: 25.0 cm' for the source-to-detector distance, '7.62 cm' for the crystal length, and '7.62 cm' for the crystal diameter. A 'Show more options' button is located below the diagram. The 'Next step:' button is labeled 'Run Analysis'.

Done Internet 100%

Detector Sensitivity



Run the Analysis

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Select the right detector type:

Dimensions:

Source

Filter

Crystal

7.62 cm
Crystal diameter

25.0 cm
Source to Detector distance

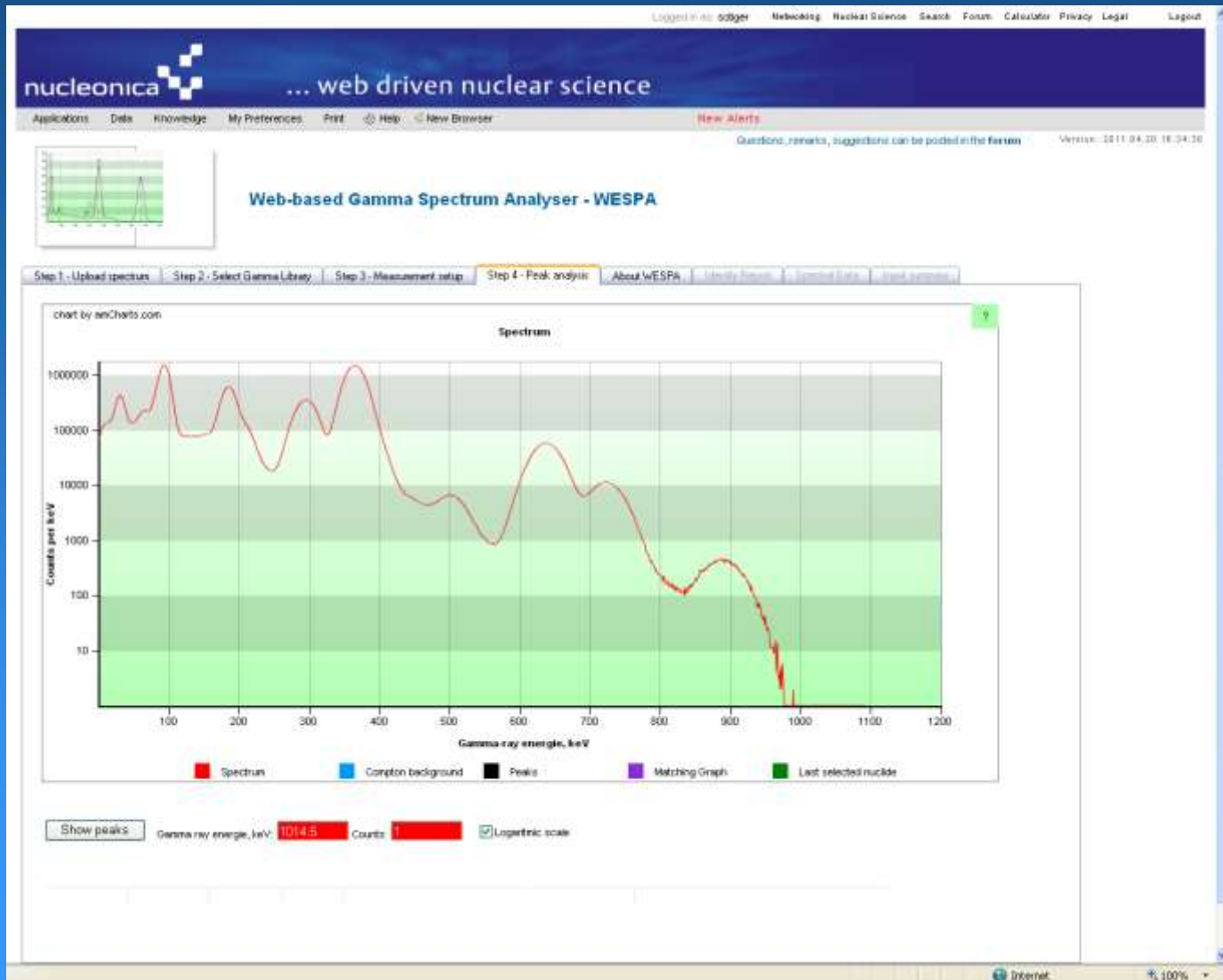
9.52 cm
Crystal length

☐ Show more options

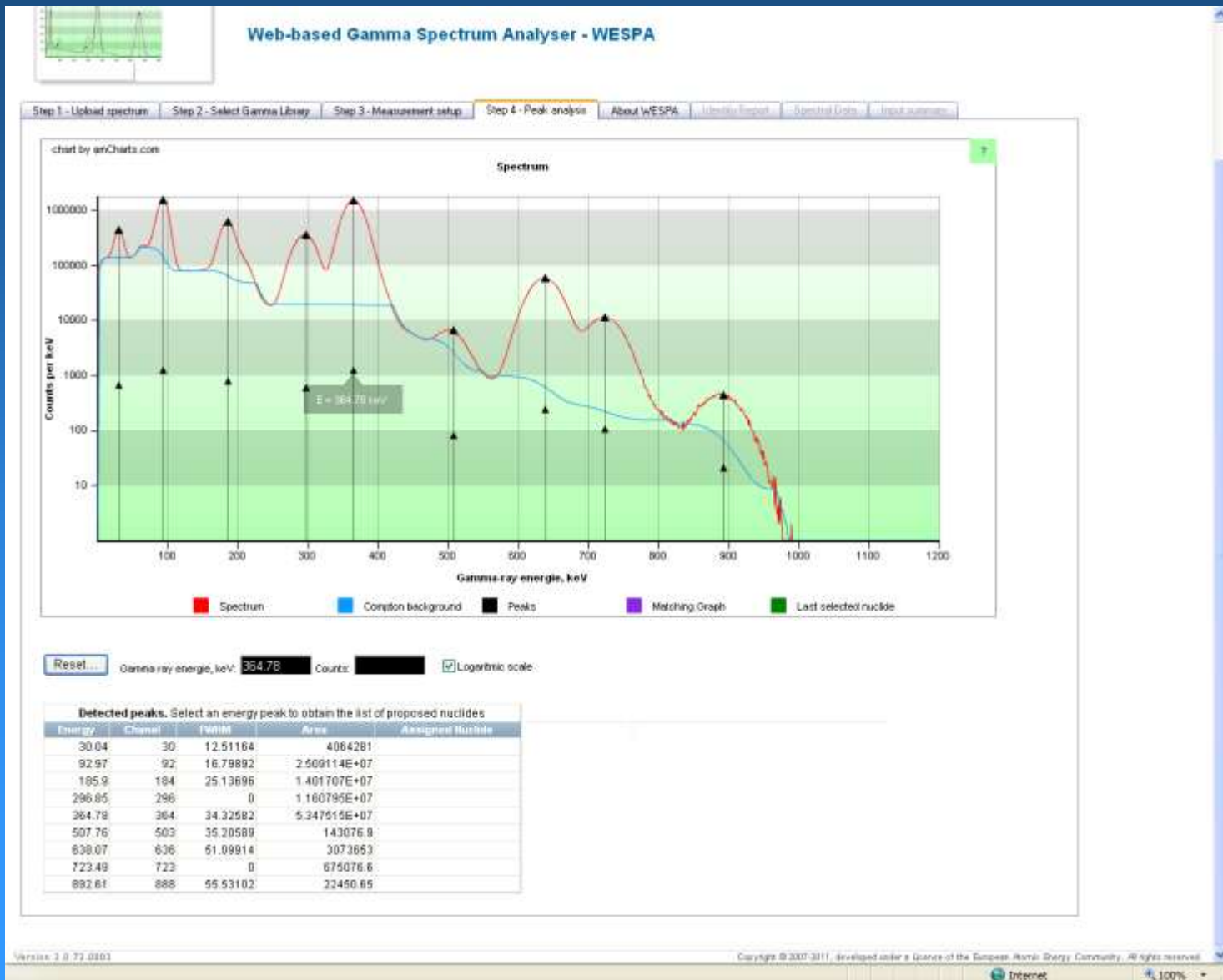
Next step:
[Run Analysis](#)

Internet 100%

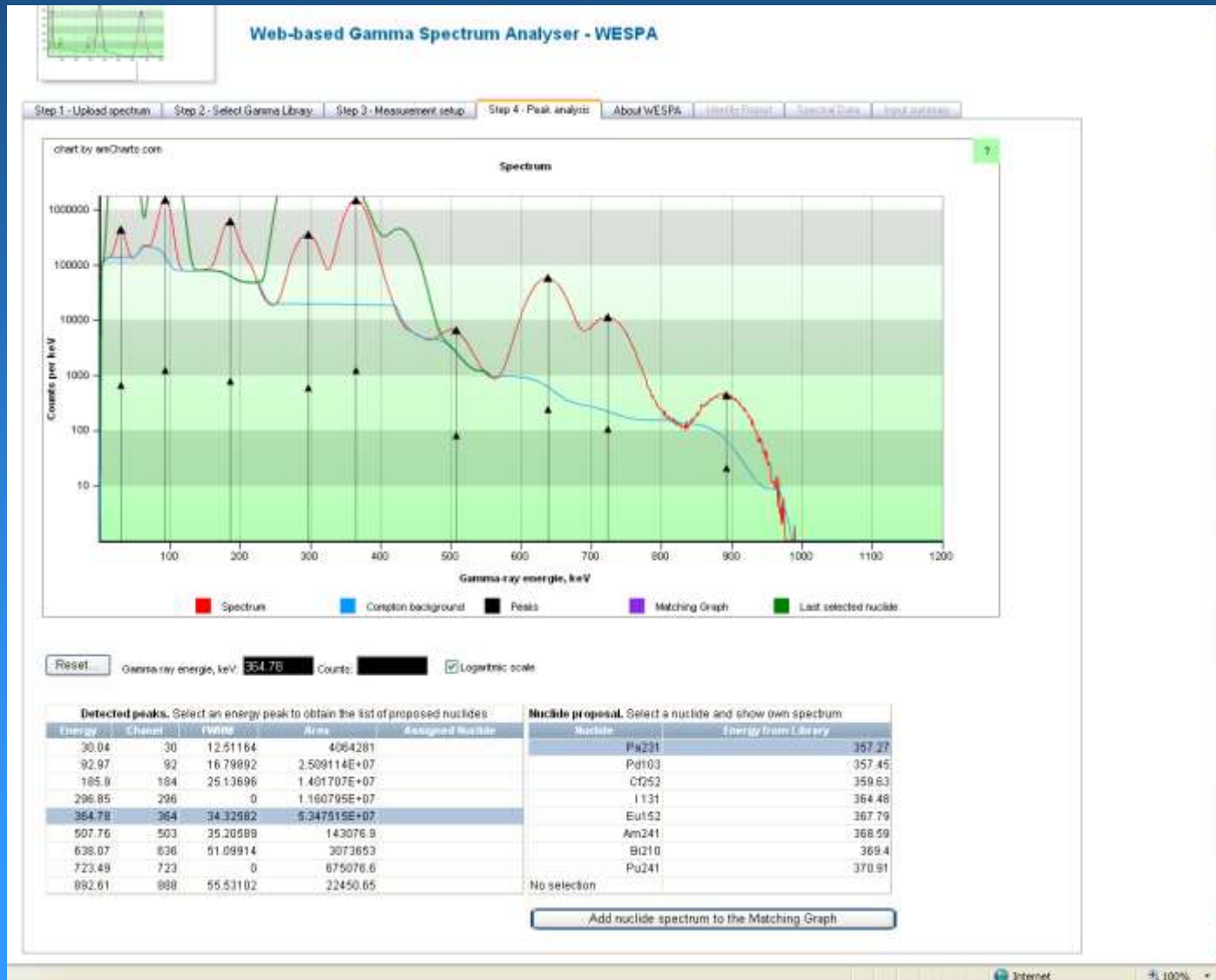
Show the peaks



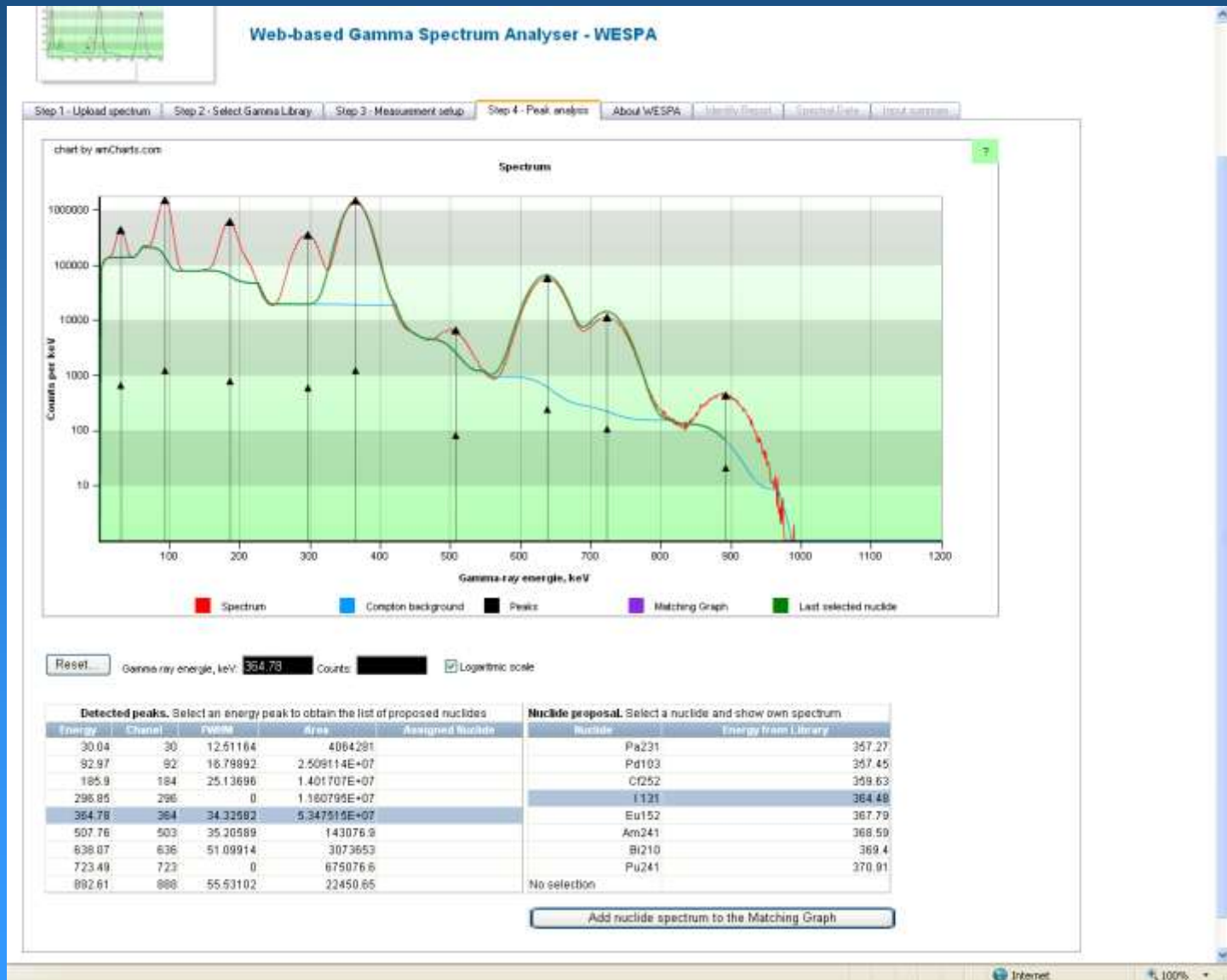
Select a most characteristic peak



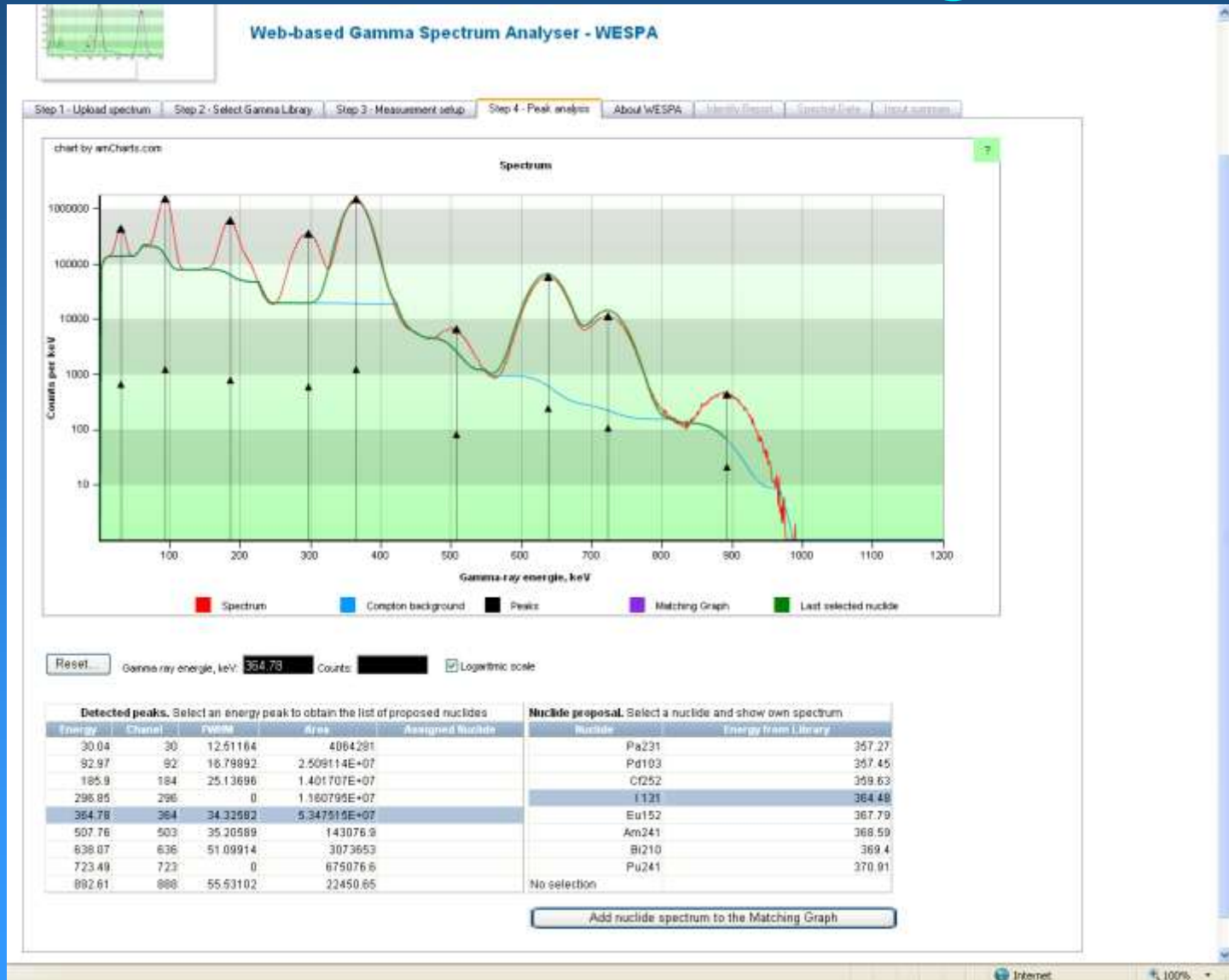
Select a nuclide



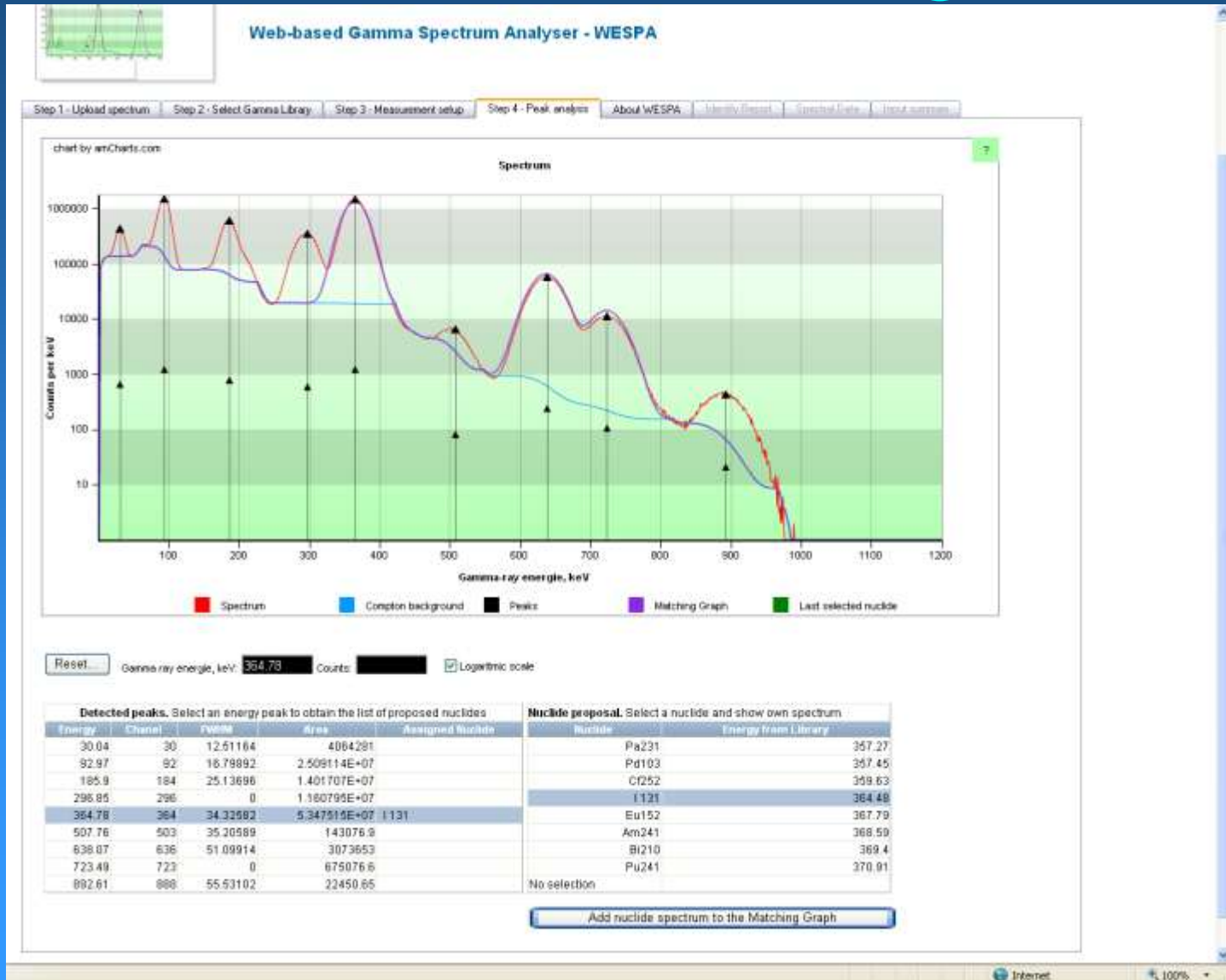
Select the best fit



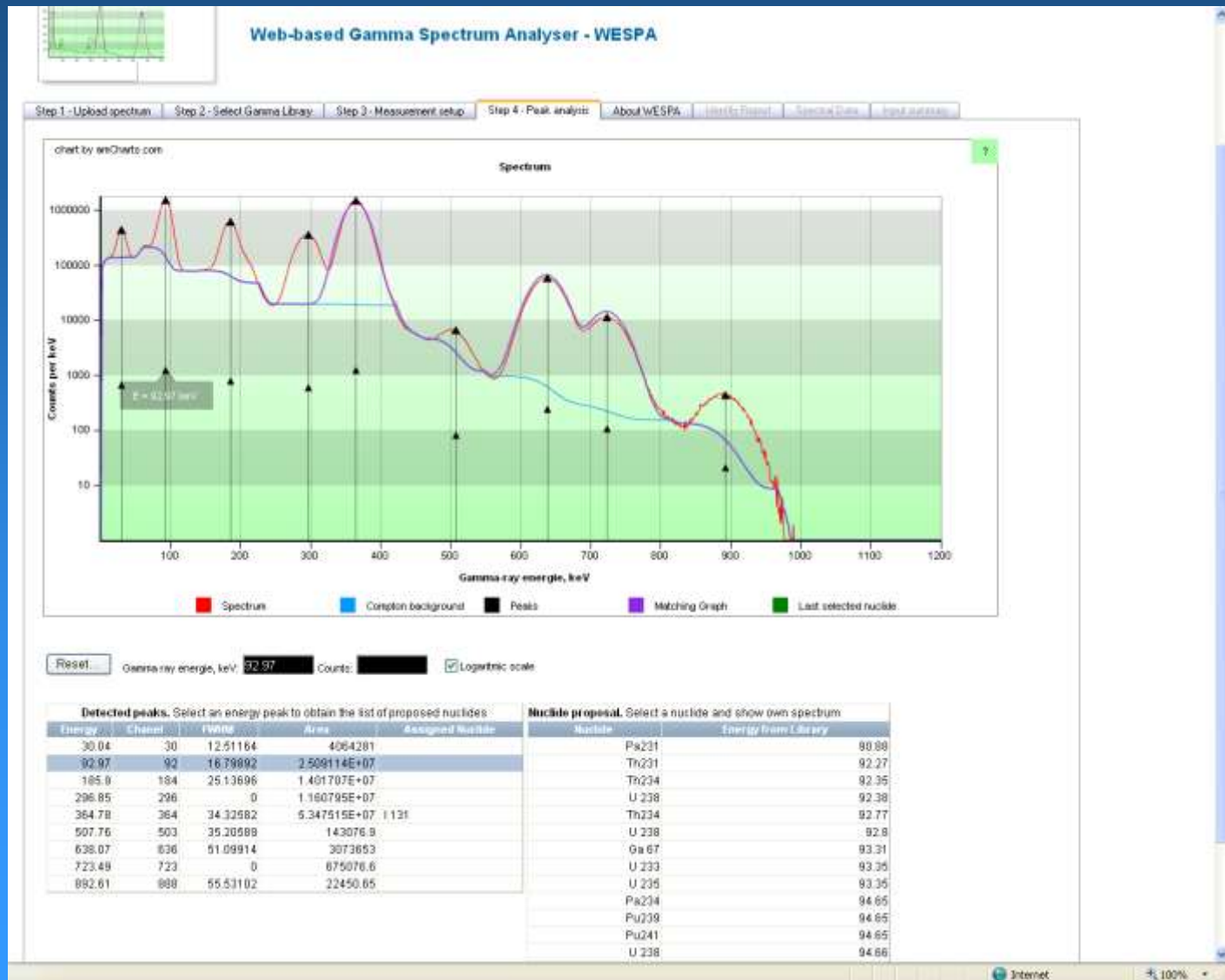
Add nuclide to Matching Graph



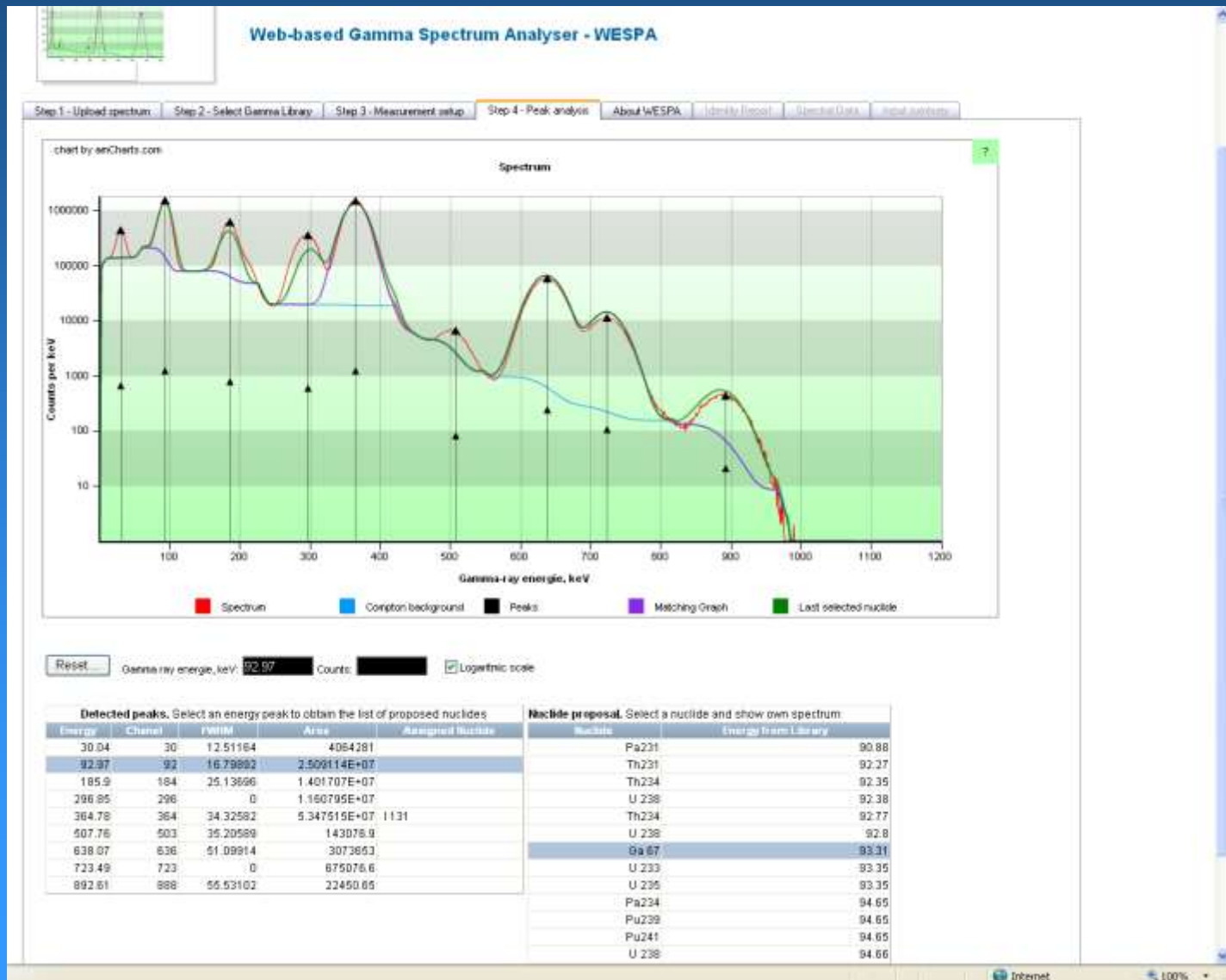
Add nuclide to Matching Graph



Select the next characteristic peak



Find the best fit



Add the nuclide to Matching Graph

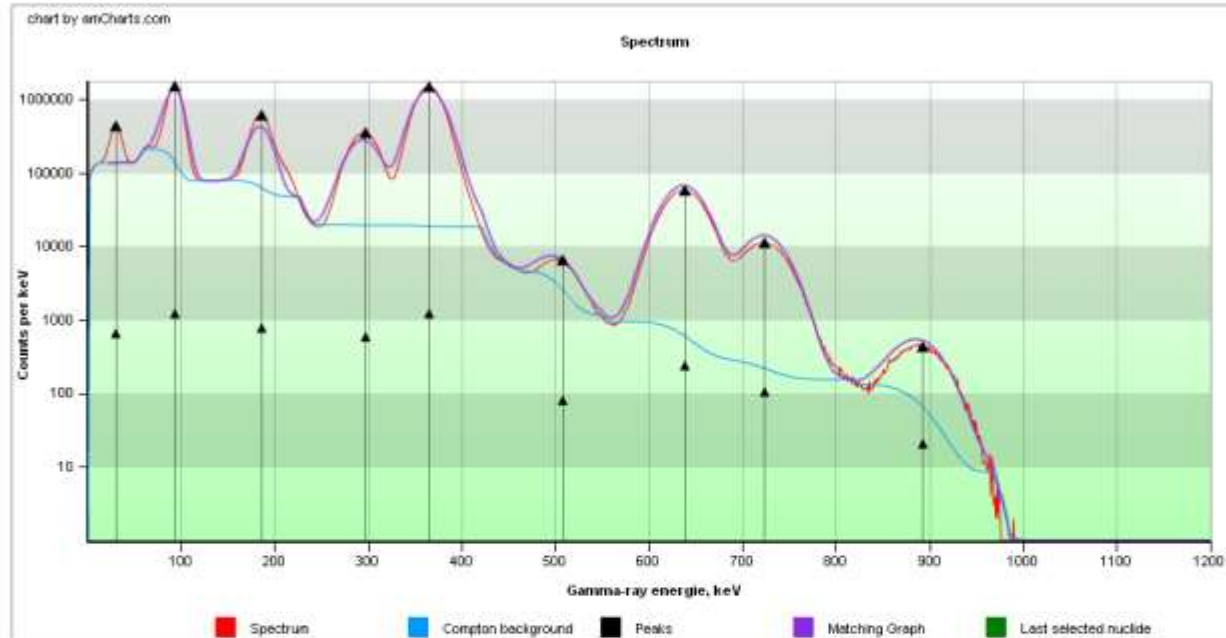


Exercise

- Perform the analysis of spectrum cambio2.spe using the medical library
- Spectrum training3.spe measured in a Department of Nuclear Medicine. Perform the analysis with WESPA

Web-based Gamma Spectrum Analyser - WESPA

Step 1 - Upload spectrum Step 2 - Select Gamma Library Step 3 - Measurement setup Step 4 - Peak analysis About WESPA Library Report Spectral Data Input summary



Reset...

Gamma ray energy, keV: 92.97 Counts: ☒ Logarithmic scale

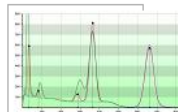
Detected peaks. Select an energy peak to obtain the list of proposed nuclides

Energy	Channel	FWHM	Area	Assigned Nuclide
30.04	30	12.51164	4064281	
92.97	92	16.79892	2.509114E+07	Ga 67
185.9	184	25.13696	1.401707E+07	
296.85	296	0	1.160795E+07	
364.78	364	34.32582	5.347515E+07	1131
507.76	503	35.20589	143076.9	
638.07	636	51.09914	3073653	
723.49	723	0	675076.6	
892.61	888	55.53102	22450.65	

Nuclide proposal. Select a nuclide and show own spectrum

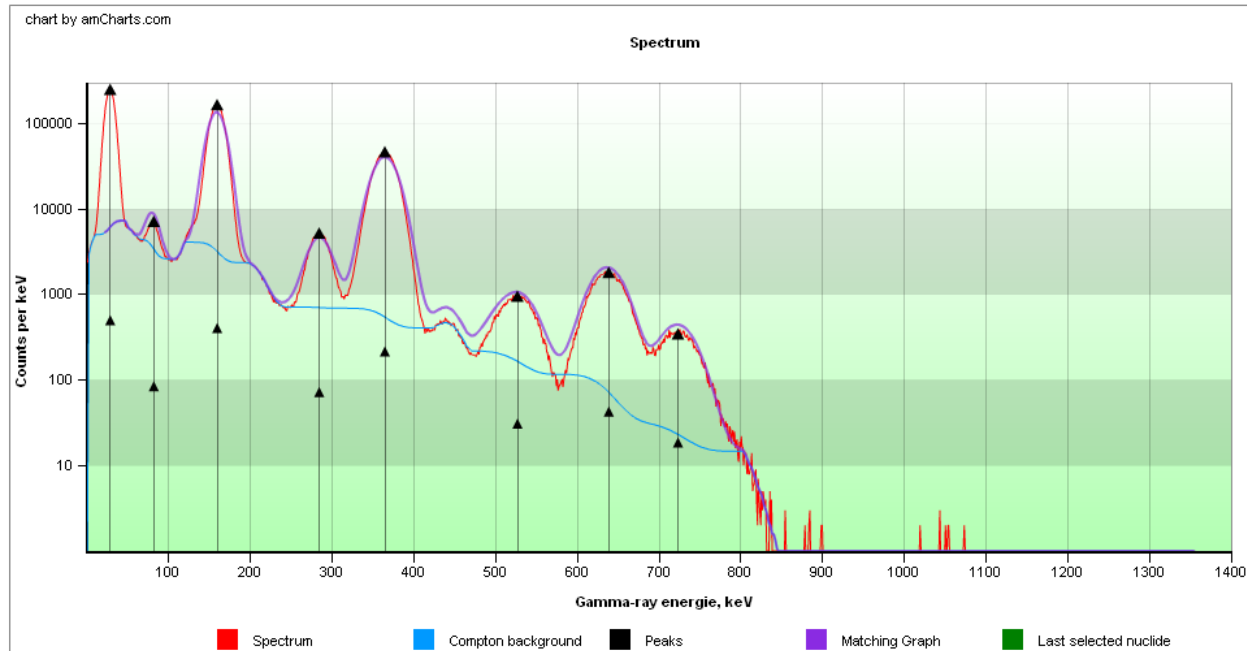
Nuclide	Energy from Library
Ga 67	93.31
No selection	

Add nuclide spectrum to the Matching Graph



Web-based Gamma Spectrum Analyser - WESPA

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Reset...

Gamma ray energie, keV: 364.36

Counts:

☒ Logarithmic scale

Detected peaks. Select an energy peak to obtain the list of proposed nuclides				
Energy	Chanel	FWHM	Area	Assigned Nuclide
28.09	28	12.75646	3381584	
81.66	80	13.30113	49899.98	
158.99	158	20.32053	3525179	I123
284.06	284	0	197491.1	
364.36	364	32.49288	1595310	I131
526.62	529	43.72792	37813.38	
638.26	636	48.97777	90266.38	
723.1	723	0	18246.44	

Nuclide proposal. Select a nuclide and show own spectrum

Nuclide	Energy from Library
I131	364.48
No selection	